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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,129	01/20/2000	Patrick W. Mullen	1571.1144001	3992

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EXAMINER

CHEVALIER, ALICIA ANN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/29/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/488,129

Applicant(s)

MULLEN ET AL.

Examiner

Alicia Chevalier

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1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 34-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5, 6, 9, 10, 12                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-33 in Paper No. 11 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is unclear in scope which renders the claim vague and indefinite. It is unclear is the final shape of the sheet is a chip or if the sheet is capable of breaking apart.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 5, 7, 11-15, 19, 22, 24-26, 28, 29, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Heenan (4,208,090).

Heenan discloses a reflector structure comprising a reflector body, reflector elements coated with a thin layer of metal, an adhesive coating and a backing member (figure 6B). The reflector element has a cube corner axis about which three reflecting surfaces are symmetrically arranged (col. 4, lines 32-35). The thin metal layer can be aluminum (col. 7, lines 60-62). The reflector body may be formed of clear synthetic organic plastic resin, whereby a white beam of light is reflected thereby both in daylight and at night. However, a color such as red, yellow, blue and the like may be incorporated in the body, thereby to give a colored signal both in daylight and at night. Alternatively, the reflecting surfaces of the body may be colored, thereby to give colored reflections there from. See column 7, lines 3-11.

6. Claims 1, 2, 5, 7, 11, 12,, 14, 15, 18, 19, 24-26, 29, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin et al. (5,805,339).

Martin discloses a retroreflective structure comprising a substrate, an adhesive, a metal layer, microprisms, a release coating, and a base sheet (figure 1E). The prisms are of the type formed of cube corners in which the three faces intersect as 90 degree angles and in which the

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optical and prism axis coincident. The metal layer may comprise metals such as aluminum, gold, or silver. See column 2, lines 49-61.

In a alternate embodiment the micropisms can be stripped away forming individual retroreflective prisms (col. 3, lines 36-39).

***Claim Rejections - 35 USC § 102***

7. Claims 3 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heenan (4,208,090).

Heenan discloses all the limitations of the instant claimed invention except that the optical coating has a low index of refraction dielectric material with an index of refraction in the range between about 1.1 and 1.3. Although Heenan does not explicitly teach the limitations an optical coating has a low index of refraction dielectric material with an index of refraction in the range between about 1.1 and 1.3, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. aluminum) used to produce the optical coating. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed index of refraction would obviously have been provided by the process disclosed by Heenan. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102.

8. Claims 3 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Martin et al. (5,805,339).

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Martin discloses all the limitations of the instant claimed invention except that the optical coating has a low index of refraction dielectric material with an index of refraction in the range between about 1.1 and 1.3. Although Heenan does not explicitly teach the limitations an optical coating has a low index of refraction dielectric material with an index of refraction in the range between about 1.1 and 1.3, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. aluminum, gold, or silver) used to produce the optical coating. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed index of refraction would obviously have been provided by the process disclosed by Heenan. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 16, 17, 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (4,208,090).

Heenan discloses the claims invention except for fill layer having an index of refraction in the range of between about 1.5 and 1.65 and an application viscosity less than or equal to 1,000 centipoises. It would have been obvious to one having ordinary skill in the art at the time

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the invention was made to use a fill layer with index of refraction in the range of about 1.5 to 1.65 or an application viscosity less than or equal to 1,000 centipoises, since it have been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. One of ordinary skill would be motivated to use a fill layer with that particular index of refraction depending on the angle of reflection desired to determine the brightness.

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (4,208,090).

Heenan discloses the claims invention except for the pattern wall thickness. The exact thickness of the wall is deemed to be a cause effective. It would have been obvious to one having ordinary skill in the art to have determined the optimum value of a cause effective variable such as thickness of the wall through routine experimentation in the absence of a showing of criticality in the claimed combined thickness. *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). One of ordinary skill in the art would have been motivated to change the thickness of the wall depending upon the design they wish to impart in the sheeting.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (4,208,090) in view of Coderre (5,272,562).

Heenan discloses the claims invention except for the substantially rigid polymer material further including a filler.

Coderre discloses a cube-corner retroreflective material comprising pigments in a polymer. The pigments may comprise zinc oxide, zinc sulfide, lithopone, titanium dioxide, etc. See col. 5, lines 11-45.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add pigments to the cube-corner material of Heenan as taught by Coderre because it would add a decorative color to the article of Heenan.

13. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (4,208,090) or Martin et al. (5,805,339) in view of Araki et al (6,142,643).

Heenan and Martin discloses all the limitations of the instant claimed invention except for the sheeting further comprising a top or bottom conductive carrier sheet.

Araki discloses an electroluminescent retroreflective article comprising a cube corner member and an electroluminescent element.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add an electroluminescent element to either Heenan or Martin's sheet as taught by Araki because a self emitting light source would improve the visibility of the sheets.

14. Claims 1-5, 11-12, 14-15, 19-22, 24-26, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pricone et al. (4,618,518) in view of Heenan (4,208,090).

Pricone et al. discloses a retroreflective sheeting comprising a two layers of back to back thermoplastic webs embossed with cube-corner type retroreflective patterns, a hydrophobic granular silica material, backcoat film, an adhesive and a release sheet (figure 7).

Pricone fails to teach an optical layer on the open faced cub-corner surfaces.



Heenan discloses a reflector structure comprising a reflector body, reflector elements coated with a thin layer of metal, an adhesive coating and a backing member (figure 6B). The thin metal layer can be aluminum. The surfaces are metalized to increase the reflectivity thereof at wide entrance angles. See column 7, lines 60-66.

Although Heenan does not explicitly teach the limitations an optical coating has a low index of refraction dielectric material with an index of refraction in the range between about 1.1 and 1.3, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. aluminum) used to produce the optical coating. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use add a layer of aluminum to the cube-corner surfaces of Pricone because of the increase reflectivity at wide entrance angles.

The term "breakable" is equivalent to "capable of." It have been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. *In re Hutchison*, 69 USPQ 138.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Phillips (5,642,22), Nilsen et al. (5,657,162), Smith (6,280,822 B1), and Benson et al. (6,287,670 B1) all disclose similar retroreflective sheeting.

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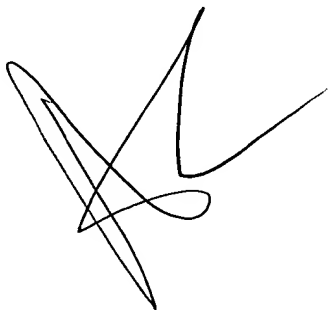

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (703) 305-1139. The Examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:00 p.m. The Examiner can also be reached on alternate Fridays

If attempts to reach the Examiner are unsuccessful, the Examiner's supervisor, Blaine Copenheaver can be reached by dialing (703) 308-1261. The fax phone number for the organization official non-final papers is (703) 872-9310. The fax number for after final papers is (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose phone number is (703) 308-0661.

ac

3/21/02

A handwritten signature in black ink, appearing to be 'AC', with a large, stylized loop.A handwritten signature in black ink, appearing to be 'Blaine Copenheaver', with a large, stylized loop.

BLAINE COPENHEAVER  
SUPERVISORY PATENT EXAMINER  
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